

CLAIMS

WHAT IS CLAIMED IS:

137
13

523
175, 309

508/591
583

C₅-C₁₀

1. A process for forming a drag reducing agent slurry comprising:
forming a polyalphaolefin; and
mixing the polyalphaolefin with at least one alfol alcohol.

2. The process for forming a drag reducing agent slurry of claim 1, wherein the at least one alfol alcohol is selected from the group consisting of 1-pentanol, 1-hexanol, 1-heptanol, n-octyl alcohol, n-nonyl alcohol and 1-decanol.

3. A process for forming a drag reducing agent slurry comprising:
contacting alpha olefin monomer with a catalyst in a reactant mixture;
polymerizing the alpha olefin monomers, wherein during the polymerization, at least a portion of the alpha olefin monomers polymerize in the reactant mixture to provide a polyalphaolefin;
mixing the polyalphaolefin with at least one alfol alcohol.

4. The process for forming a drag reducing agent slurry of claim 3, wherein the catalyst is a transition metal catalyst.

5. The process for forming a drag reducing agent slurry of claim 3, wherein the transition metal catalyst is a Ziegler-Natta catalyst.

6. The process for forming a drag reducing agent slurry of claim 3, wherein the Ziegler-Natta catalyst is titanium trichloride.

7. The process for forming a drag reducing agent slurry of claim 3, wherein the reactant mixture includes at least one co-catalyst.

3 8. The process for forming a drag reducing agent slurry of claim 7, wherein the at least one co-
4 catalyst is selected from the group consisting of alkylaluminoxanes, halohydrocarbons,
5 diethylaluminum chloride, and dibutylaluminum chloride.

1 9. The process for forming a drag reducing agent slurry of claim 3, wherein the alpha olefin
2 monomers comprise homopolymers, terpolymers or copolymers.

1 10. The process for forming a drag reducing agent slurry of claim 3, wherein the alpha olefin
2 monomers comprise co-polymers of 1-hexene and 1-dodecene alpha olefins or co-polymers of 1-
3 octene and 1-tetradecene alpha olefins.

1 11. The process for forming a drag reducing agent slurry of claim 3, wherein the polyalphaolefin
2 is an ultra-high molecular weight polyalphaolefin having an inherent viscosity of at least about 10
3 deciliters per gram and is amorphous with substantially no crystalline particles.

1 12. The process for forming a drag reducing agent slurry of claim 3, further comprising the step
2 of cryogrinding the polyalphaolefin prior to mixing the polyalphaolefin with at least one alfol
3 alcohol.

1 13. The process for forming a drag reducing agent slurry of claim 3, wherein the at least one alfol
2 alcohol is selected from the group consisting of 1-pentanol, 1-hexanol, 1-heptanol, n-octyl alcohol,
3 n-nonyl alcohol and 1-decanol.

14. A drag reducing agent slurry comprising a polyalphaolefin and at least one alfol alcohol.

1 15. The process for forming a drag reducing agent slurry of claim 14, wherein the at least one
2 alfol alcohol is selected from the group consisting of 1-pentanol, 1-hexanol, 1-heptanol, n-octyl
3 alcohol, n-nonyl alcohol and 1-decanol.

1 16. A drag reducing agent slurry comprising a polyalphaolefin and at least one alfol alcohol
2 formed by mixing the polyalphaolefin with at least one alfol alcohol.

1 17. The process for forming a drag reducing agent slurry of claim 16, wherein the at least one
2 alfol alcohol is selected from the group consisting of 1-pentanol, 1-hexanol, 1-heptanol, n-octyl
3 alcohol, n-nonyl alcohol and 1-decanol.

1 18. A drag reducing agent slurry comprising a polyalphaolefin and at least one alfol alcohol
2 formed by contacting alpha olefin monomers with a catalyst in a reactant mixture;
3 polymerizing the alpha olefin monomers, wherein during the polymerization, at least a
4 portion of the alpha olefin monomers polymerize in the reactant mixture to provide a
5 polyalphaolefin; and
6 mixing the polyalphaolefin with at least one alfol alcohol.

1 19. The process for forming a drag reducing agent slurry of claim 18, wherein the at least one
2 alfol alcohol is selected from the group consisting of 1-pentanol, 1-hexanol, 1-heptanol, n-octyl
3 alcohol, n-nonyl alcohol and 1-decanol.

1 20. A process for reducing drag in a conduit, comprising:
2 forming a drag reducing agent slurry comprising a polyalphaolefin and at least one
3 alfol alcohol; and
4 introducing the drag reducing agent slurry into the conduit.

1 21. The process for forming a drag reducing agent slurry of claim 20, wherein the at least one
2 alfol alcohol is selected from the group consisting of 1-pentanol, 1-hexanol, 1-heptanol, n-octyl
3 alcohol, n-nonyl alcohol and 1-decanol.

1 22. A process for reducing drag in a conduit, comprising:

forming a drag reducing agent comprising a polyalphaolefin, wherein the drag
reducing agent is formed by contacting alpha olefin monomers with a catalyst
in a reactant mixture;
polymerizing the alpha olefin monomers, wherein during the polymerization, at least
a portion of the alpha olefin monomers polymerize in the reactant mixture to
provide a polyalphaolefin;
mixing the polyalphaolefin with at least one alfol alcohol to form a drag reducing
agent slurry; and
introducing the drag reducing agent slurry into the conduit.

23. The process for forming a drag reducing agent slurry of claim 22, wherein the at least one
alfol alcohol is selected from the group consisting of 1-pentanol, 1-hexanol, 1-heptanol, n-octyl
alcohol, n-nonyl alcohol and 1-decanol.